Operational Facility Workstation Specifications

INTENT

The intent of this specification is to purchase operational facility workstations for use by the Federal Aviation Administration (FAA).

Except when otherwise noted, the item or capability specified is considered to be the minimum acceptable.

VENDOR'S INFORMATION

Configuration must be such that no renovations of existing structure occur and must allow for ample movement throughout the location. Workstations shall be capable of arrangement in such a way as to meet the existing needs of the facility and must meet ADA guidelines.

1. Structural Requirements

1.1. The sit-to-stand console shall be designed to configure to either a 90 degree corner, a 180 degree rectangular, or a 133 degree irregular rectangular configuration if required.

1.2. The lift system (includes 2 dual leg pairs) to be rated for a minimum of 360 lbs static load per pair beneath both the keyboard (input) surface and monitor (primary) surface (i.e. 360 lbs static load rating beneath the keyboard surface and 360 lbs static rating beneath the monitor surface). The maximum number of lift columns per surface must not exceed two.

1.3. The workstation must be a "full dual electric lift" system whereby the (input) keyboard surface can move independently of the primary (monitor) surface (i.e. one can be lowered when the other is being raised). The keyboard surface must be capable of being raised above the plane of the monitor surface.

1.4. Vertical adjustment to be provided by one pair of DC (direct current) motors beneath both the monitor and keyboard surfaces. Noise emissions of motors shall not exceed 45 dB. Each motor will be equipped with overload protection. Each console shall have two AC (alternating current) to DC (direct current) logic controllers (rectifier and transformer) with a UL/CSA approval rating of 120VAC/60 Hz/6A for each controller.

1.5. The console shall have an interconnecting steel base frame to provide lateral stability when the keyboard and monitor surfaces are full extended vertically. In addition the full steel base frame construction must provide for mechanical support for the easy relocation of the console without having to disassemble the console or privacy panel systems.

1.6. Workstations must be modular in construction to accommodate FAA future needs including but not limited to additions/changes to workstation requirements, changes in facility

footprints (floor space), and relocation with minimal downtime, inconvenience and cost.

1.7. All workstation peripheral support elements including but not limited to brackets, kits, connectors, light bulbs, power bars, Velcro, and cable wraps shall be included in vendor pricing.

1.8. The workstation must fit into a 90 degree corner and measure between 74" x 74" and 75" x 75" at its base.

1.9. Vendor must show capability of producing workstations with keyboard work surface areas of at least 110 square inches and monitor surface areas of at least 235 square inches.

1.10. The keyboard work surface shall move independently of the monitor work surface and be capable of allowing fully extended side-to-side motion across the enlarged keyboard surface without obstruction to the user from lift columns. In order to ensure this, the keyboard lift columns must be spaced a minimum of 65" apart. Cantilever keyboards and counterbalanced manual keyboard designs will not be accepted because they do not provide adequate stability when working at or near the outer ends of the multi-use keyboard surface. The maximum number of lift columns per surface must not exceed two.

1.11. Monitor and keyboard surface composition to be minimum 1" 50 lb/ft fire retardant and moisture resistant particle board with WilsonArt brand (or equivalent) 048" high-pressure laminate and backer board.

1.12. Monitor surface edging material shall be a minimum 6.2 mm thick thermoplastic vinyl extrusion. The keyboard surface shall be a minimum of 6.2 mm thick thermoplastic vinyl extrusion (flat edging) to a maximum of 13.5 mm (rounded bullnose edging).

1.13. Keyboard surface must be designed to accommodate multiple keyboards, mouse devices, and a desk top phone set. The keyboard surface must also provide both left and right handed writing space. This surface shall provide a wrap-around cockpit design eliminating the need for side-to-side movement by the user.

1.14. Each console to be equipped with a telescopic monitor surface platform capable of supporting up to (5) 21" flat screen monitors and allow the user to adjust both the focal and reach distances to either base-mounted or articulating arm-mounted monitors. For purposes of safety, the focal platform must <u>not</u> override the primary keyboard surface.

1.15. Horizontal lay-in cable management channels, to be constructed of a minimum 18 gauge cold rolled steel, must be capable of concealing and managing cabling required on the keyboard (input) and monitor (primary) work surfaces to the vertical cable management that delivers cables down to the floor. The horizontal cable channel shall be technically friendly and eliminate the need for fishing of wires through closed channels or wall panel partitions.

1.16. Flexible vertical cable management chain, minimum 2 ¼" x 36", shall be used to manage all electrical and communication cables from the floor to the CPU compartment and the monitor and keyboard surface. The vertical channel must be lay-in type and comply with EIA/TIA bend radius standards for copper and fiber cabling. The channel must

safely manage all cabling when console moves from a seated to a standing position eliminating wear and tear on connectors, wires and cables. The channel must be technically friendly and eliminate the need for fishing of wires through closed channels or wall panel systems and must be capable of separating power from data cabling.

1.17. The console/workstation must provide the ability to secure and enclose all internal electronics and CPUs. To optimize floor space, CPUs and personal storage must be housed beneath the console and within cabinets integral to the console workstation so that CPUs, monitors, and console are within easy reach of a seated user.

1.18. Electrical and communications wiring should be concealed and secured to the greatest extent possible to prevent accidental contact with wiring or accidental disconnection. It is deemed unacceptable to have coiled wiring on the floor, on desktop surfaces or egressing from wall panels to accommodate the vertical adjustment of work surfaces, as it can become entangled with other items and pose a safety hazard to users.

1.19. Workstations shall have a minimum of two CPU compartments, one of which must be located in the center of the workstation.

1.20. CPU compartments capable of housing three CPU's shall be a minimum of 23"D x 34"W x 20.5"H. CPU compartments capable of housing two CPU's shall be a minimum of 23"D x 23"W x 20.5"H.

1.21. A mounting area within the center CPU compartment must be available to support a typical 12 port Cat 5e data patch panel for each console.

1.22. Each console is to have (two) 4 outlet 20 amp UL/CSA approved power bars located under the rear of the monitor surface. The monitor surface power bars must be easily accessible and connect to the building supplied 20 amp UPS circuits.

1.23. Each console to have a surface mount duplex receptacle with a RJ 11 voice and a RJ 45 data connection.

1.24. Each console to have a 6 port extension block to support extended cable lengths for mouse and keyboard cables.

1.25. Each console to have one Communications Ground Bus per console.

1.26. Each console to be equipped with one 20 amp Power Distribution Center with the following attributes:
a. single phase
b. 3 circuit system
c. containing (4) 20A turn lock UPS receptacles
d. containing (1) 20A straight blade utility duplex receptacle.

1.27. Workstations must accommodate a minimum of five (5) CPU's (i.e. using the minimum two CPU compartments to be provided) with capability to accommodate a higher number as determined by facility needs. CPU cabinets to be constructed of 16 gauge sheet metal and feature a 12 gauge pull out telescopic shelf for ease of technical access.

1.28. Front and rear access doors shall be a minimum 18 gauge sheet metal. All CPU cabinets shall be designed to provide adequate ventilation for the CPU's without the need for exhaust fans.

1.29. CPU compartments shall be housed within a cabinet integral to the console so that CPUs, monitors, and the console can all move simultaneously eliminating wear and tear on wiring and connectors, as well as the need for extended cable lengths.

1.30. Console base, cabinet housing, and structural framework must be of sufficient strength to prevent sagging or deflection over time and capable of sustaining the accumulated weight of monitors, CPUs, and associated hardware. All frame work will be powder coat painted with a durable finish.

1.31. Entire laminated surfaces of keyboard and monitor surface to be supported by a minimum 3/4" x 1 1/2", 16 gauge tubular frame, capable of eliminating any surface deflection.

1.32. Base to be constructed of 10 gauge cold rolled steel with a 14 gauge cold rolled sheet metal base cover with a minimum of (4) top accessible levelers, minimum 3/8" 16NC thread.

1.33. Workstations to contain four separate access points through the base to provide for privacy panel support bracing.

1.34. Pending determination of geographic locations for workstations, the workstation and the panel partitions may require the ability to be seismically secured to the concrete sub floor located below the access floor tile level. Vendors are to describe how their workstation can support this requirement. Structural drawings of the workstation bracing design must also be included with each submission, and proof that the methods to be used have been previously approved by a Structural Engineering firm.

1.35. Top accessible feet glide adjustment to be provided on the console base for height adjustment purposes.

1.36. Privacy panel heights must range from 41" to 56". Depending on facility locations, the FAA may require that the top 12"-15" of this panel be constructed of tempered glass composition to provide seated eye contact with the adjacent users and unobstructed viewing to display walls.

1.37. Upholstered pop-out sections shall provide open access to the rear of the console for access for electrical repairs and maintenance without interfering with the dispatcher. Recessed handles are required in the upholstered pop-out section.

1.38. Panels to have PVC kick plates to protect the bottom edge of the panel partition.

1.39. Panel partitions shall not require cable channels as wire management must be lay-in type (no cable fishing permitted) and must be properly integrated throughout the console in order to ensure easy relocation of the console.

2. Functional Requirements

2.1. All lift systems must be designed with a maximum of two lift columns per surface (keyboard or monitor). Maintaining the synchronization of three or more lift columns becomes more challenging as the console ages and servicing costs and downtime must be kept to a minimum at all times.

2.2. Workstations must be designed for use in a 24/7 FAA facility environment and provide for a life cycle in excess of 10 years. The vendor must be capable of demonstrating this extended life cycle in a 24/7 environment.

2.3. Vertical adjustment of the electric keyboard surface shall be from a minimum of 23" to 50" (27" travel).

2.4. The vertical adjustment of the monitor (rear) surface shall be a minimum of 23" to 50" (27"travel).

2.5. Console with fully assembled hardware and privacy/modesty panel system must be capable of easy relocation within the communications center, as an integrated system without removal or disassembly of hardware, console or panel systems.

2.6. Each workstation will include two LED (non-heat emitting) task lights. Tasks lights are to be covered and fully adjustable so as to not interfere (i.e. produce glare) with adjacent personnel.

3. Human Factors and Safety Requirements

3.1. Panels to have a minimum Noise Reduction Coefficient (NRC) rating of .70.

3.2. Workstations shall have technical lighting within CPU compartments.

3.3. The console in this specification must meet the latest specifications for ergonomic comfort as described in the ANSI/HFES 100-2007. The console must be a "total lift" system whereby all hardware components are integral with the "total lift". With a "total lift" system, the vertical adjustment will ensure that a user or technician can safely and comfortably access, operate and maintain all of the equipment & technologies from any position ranging from fully seated to fully standing.

3.4. Two airflow louvers are to be bi-directional and flush mounted to the monitor (primary) or keyboard (input) surface to ensure they do not become obstacles on the work surface. A third bi-directional airflow louver is to be mounted below the console keyboard/input surface for lower body cooling.

3.5. Each console keyboard/input surface should accommodate two (desk top) Avaya 6416 + M telephone consoles measuring (10.5" x 9") with two XM24 expansion modules measuring (4.5" x 9").

3.6. Workstations shall provide a minimum of 21" of knee depth clearance.

3.7. Workstations shall provide a minimum of 23" depth at toe clearance.

3.8. For the added safety of end users, all consoles quoted by the vendor must be UL/CSA approved as a finished product or system. To clearly demonstrate that the console has been inspected, the UL/CSA Certification or Field Inspection Label must be affixed to the keyboard framework and must be located in clear view beneath this surface.

3.9. Controls for keyboard and monitor work surface movement (raising and lowering) and personal comfort amenities (e.g. fans or lights) are to be provided in a flush-mounted panel in each workstation. Addition to the workstation of any personal comfort amenities must not compromise hardware storage capacity.

3.10. The ergonomic control components must not create obstructions on the work surfaces. Surface mounted diffuser towers and control boxes are not acceptable as they become obstacles on the multi-use work surfaces and restrict use of the full surface.

3.11. Any personal comfort amenities shall include a flush mounted control panel. The control panel to include a dimmer control for the LED task light, a blower control for the fan forced airflow to the upper and lower body for cooling, and an on/off switch for the fan forced heater that warms the feet and leg area beneath the console.

3.12. Fan system for cooling to be 80 CFM, a maximum of 2.5 Sones (sound level) 120V/60Hz/.7A and include an air filter (replacement filters to be readily available).

3.13. Extra quiet fan forced heater shall be maximum 500W, 120V/60Hz/4.2A, (minimum 1500 BTU) with built-in thermostat for establishing ideal comfort setting. Heater to have thermal overload shutdown feature for added safety. The fan forced heater is to be located below the keyboard/input surface for lower body heating.

4. Vendor Requirements

4.1. All consoles to carry a minimum of three year limited product warranty and a life time warranty on steel framework in support of a 24/7 center. Vendor shall submit all warranty documentation including any OEM product warranties.

4.2. Vendor to provide pricing for 5- and 10- year extended warranty options. These prices are to be provided for entire workstation order taken as a whole and not per workstation.

4.3. All bids to include delivery price quote separate from the installation quote.

4.4. All bids to include installation price quote separate from the delivery quote.

4.5. All bids to include seismic bracing price quote separate from other price quotes.

4.6. Once installation is complete and prior to leaving site, Vendor is to provide training to technical staff on proper cable management and ergonomic factors associated with the workstation and leave purchaser with Technical and User Manuals.

4.7. Vendor shall schedule a delivery and installation time that is agreeable with both the FAA and the Control Center staff.